

## LIGHTWEIGHT NATIVE METHOD INVOCATION INTERFACE FOR JAVA COMPUTING ENVIRONMENTS

### ABSTRACT OF THE DISCLOSURE

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Improved techniques for invocations of native methods in Java  
computing environments are disclosed. The techniques can be implemented  
in Java computing environments to facilitate efficient use of methods  
(functions or subroutines) written in programming languages other than Java  
10 (e.g., C, C + +, etc.). As such, the techniques are highly suitable for use by  
virtual machines operating with relatively less memory and/or computing  
power (e.g., embedded systems). A lightweight native method invocation  
interface can be implemented to provide direct access to Java parameters on  
the execution stack. In addition, the lightweight native method invocation can  
15 include macro instructions that operate efficiently to convert the Java  
parameters into native parameters. Thus, the lightweight native method  
invocation can significantly reduce the overhead associated with conventional  
Java native method invocation techniques. As a result, performance of virtual  
machines, especially those operating with relatively less memory and/or  
20 computing power, can be improved.